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Safe Title Area

Safe Action Area

Troubleshooting Hardware, Software and Network



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About this Session

- Where to start
- Skills required for Troubleshooting
- Best Practices
- Tools of the trade

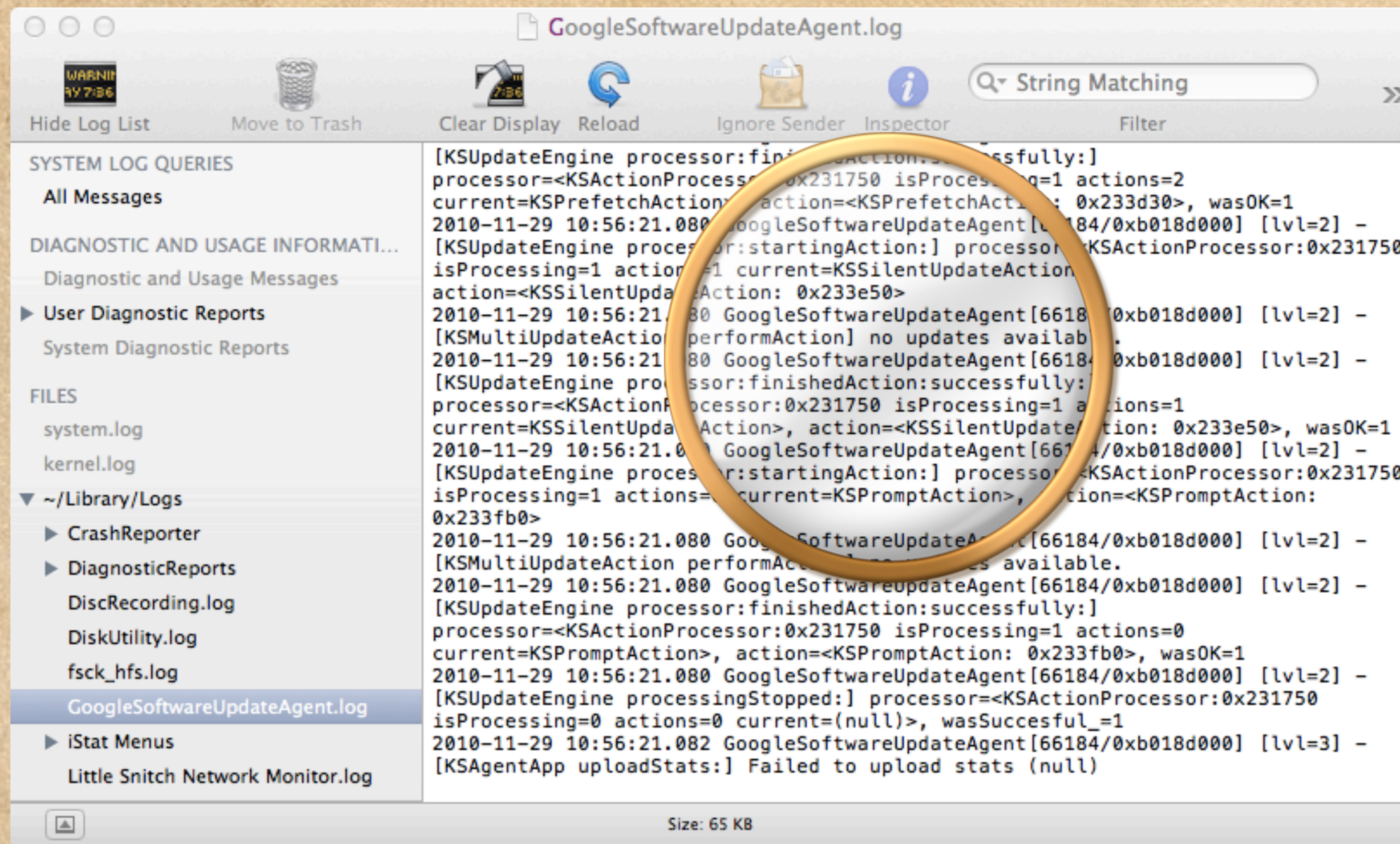
Start Simple

Start with Listening



Your client has been observing the issue for longer than you can expect to.

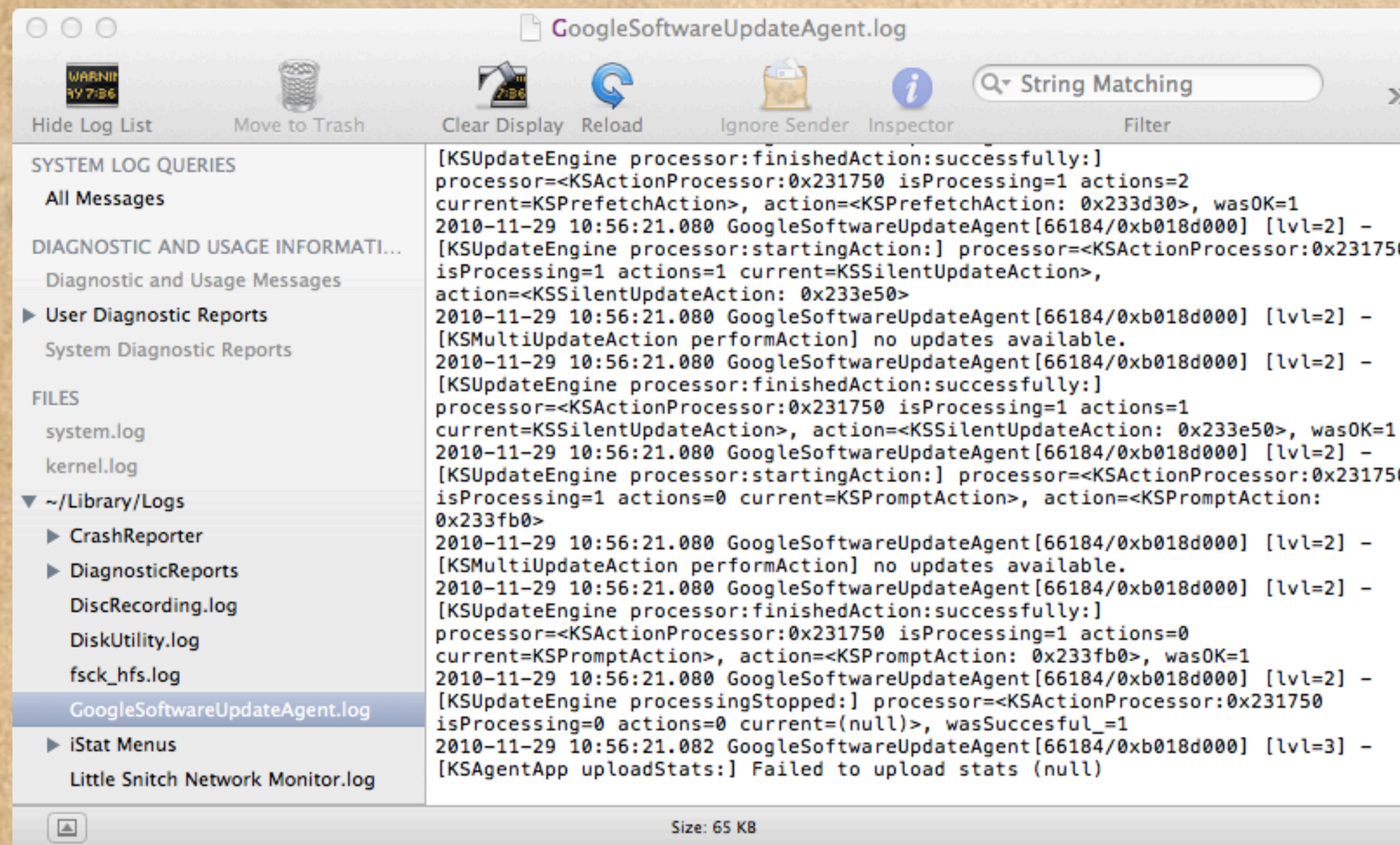
Then Diagnose the issue



Once you know what has been happening, then you can begin

Always Start off right

Seeking knowledge from All your sources before you start to fix the issue



Listen then Diagnose

- ♦ The majority of your task is to listen and completely understand the issue
- ♦ Ask lots of questions
- ♦ The Clues will present themselves
- ♦ Take mental or written notes
- ♦ Work backwards towards the cause
- ♦ Never try to fix the issue without finding the cause
- ♦ Guessing is okay as long as you have a way back!!!

The Clues will evolve

- ◆ Rule out items, narrow your possibilities
- ◆ It may be a moving target
 - ◆ The issue may be caused by multiple issues
 - ◆ One fix may create more symptoms or issues
- ◆ Don't fixate on just one path to the solution
- ◆ Test your ideas
- ◆ Work on one issue at a time

Remain Calm

- ♦ If your client feels like you are unsure, they may hover and cause unnecessary pressure on you
- ♦ Be methodical, and note your steps
 - ♦ You may need to repeat the solution
 - ♦ Or you may need to back up and try again
- ♦ Seek the root cause of the issue
 - ♦ Simple fixes may fix symptoms and not the issue
 - ♦ Look for multiple causes for the symptoms

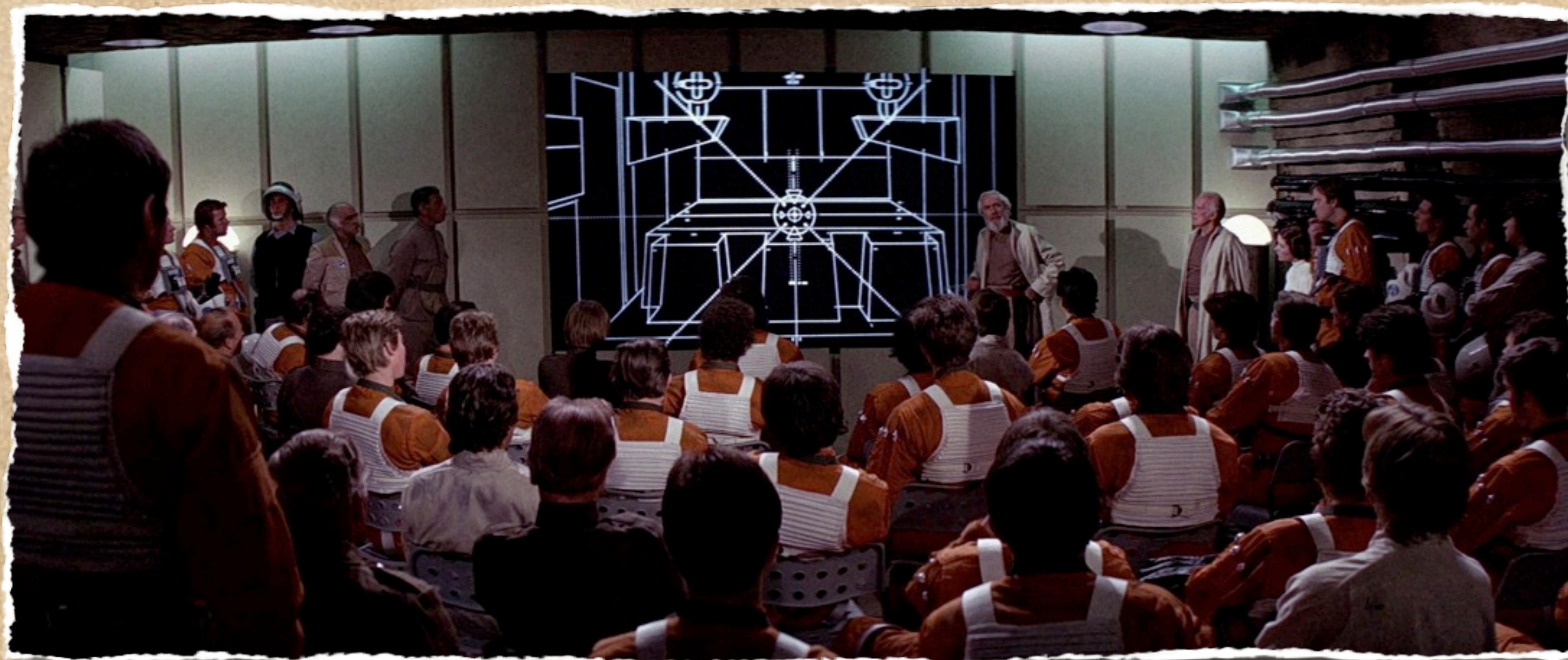
Skills required for Troubleshooting

Listening: How To...

- ♦ Always let the client finish what they have to say
- ♦ Listen to the Mac, it can also speak to you
- ♦ Never interrupt the client
- ♦ Try to follow how the client discovered the issue
- ♦ Never interrupt the client
- ♦ Understand that the client is your best observer
- ♦ Never interrupt the client

Finding a source

- ♦ Every issue has to start somewhere
- ♦ Watch the user recreate the issue
- ♦ Observe what happens



Best Practices

The Force is strong with this

- ◆ Trust your instincts
- ◆ Follow tried and true methods that have worked for you in the past
- ◆ You don't need to reinvent the wheel every time
- ◆ Share your TechFu with other Mac consultants
 - ◆ That creates a two-way communication
 - ◆ Everybody benefits, including your client



Best Practices Walkthrough



- ♦ What happened?
- ♦ Did this work before?
- ♦ Has anything changed?
 - ♦ Hardware
 - ♦ Software
 - ♦ An upgrade or update
- ♦ Does it happen every time or just

Best Practices Walkthrough



- ♦ Check the Environment
 - ♦ Check for UPSs or Surge strips
 - ♦ Is the Mac full of dust?
 - ♦ Are all the cables plugged in?
 - ♦ Are the cables damaged?
 - ♦ Is it really hot or

Best Practices Walkthrough



Account

You'll be guided through the steps to set up an additional account.

To get started, provide the following information:

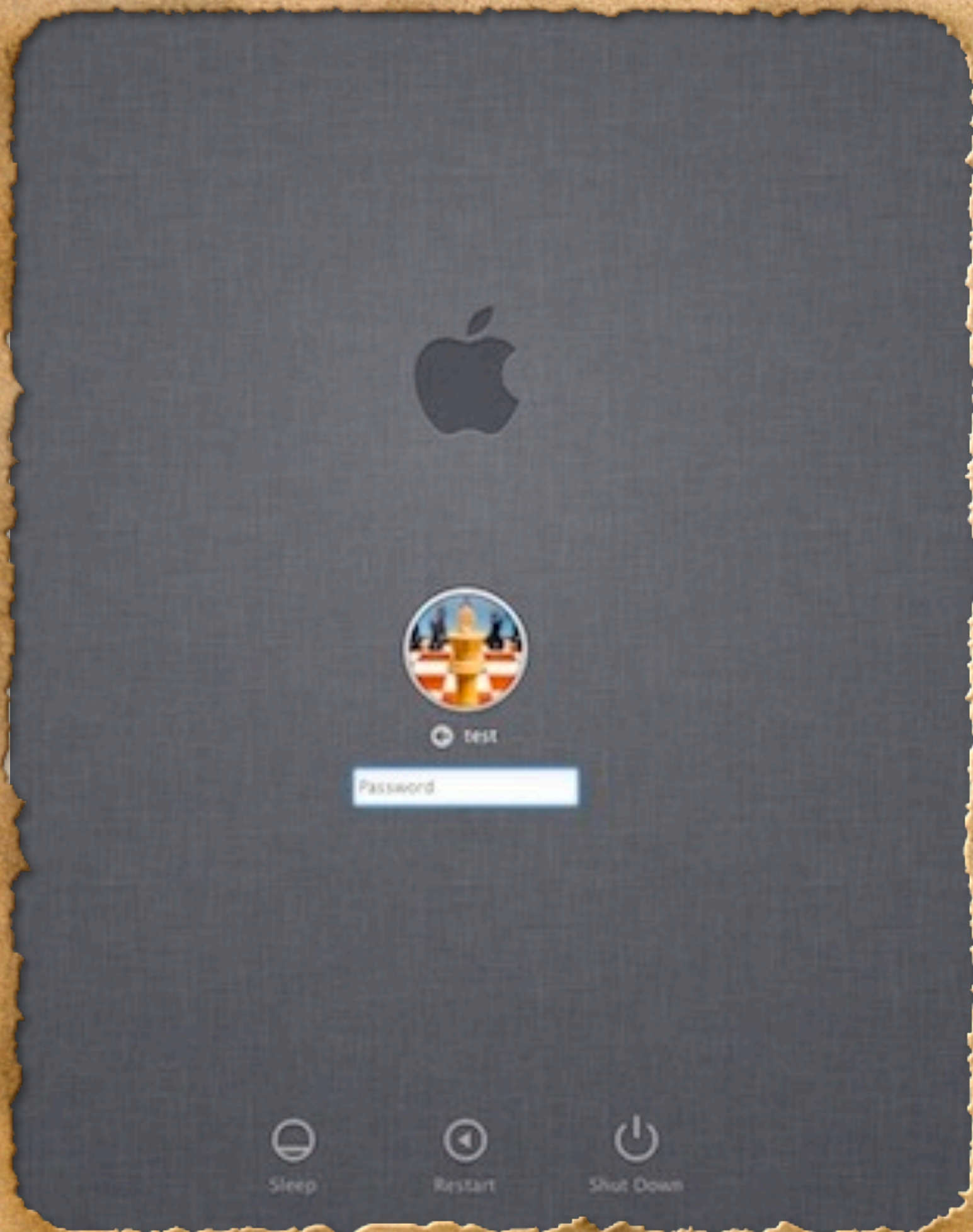
Full Name:

Email Address:

Password:

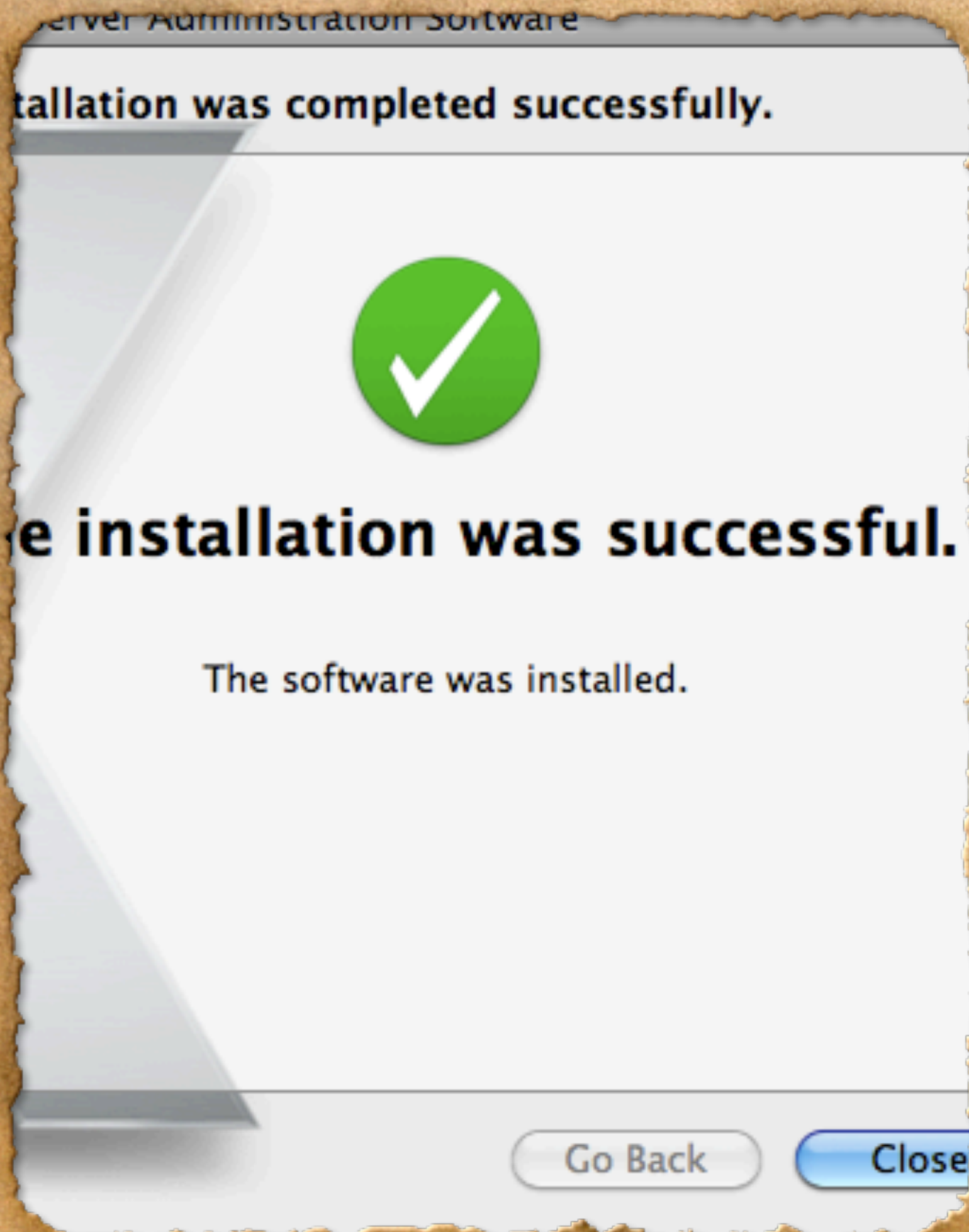
- ◆ Lets try reproduce it
- ◆ Watch what the client does and when the issue presents itself
- ◆ Could it be an issue between the keyboard and the chair?

Best Practices Walkthrough



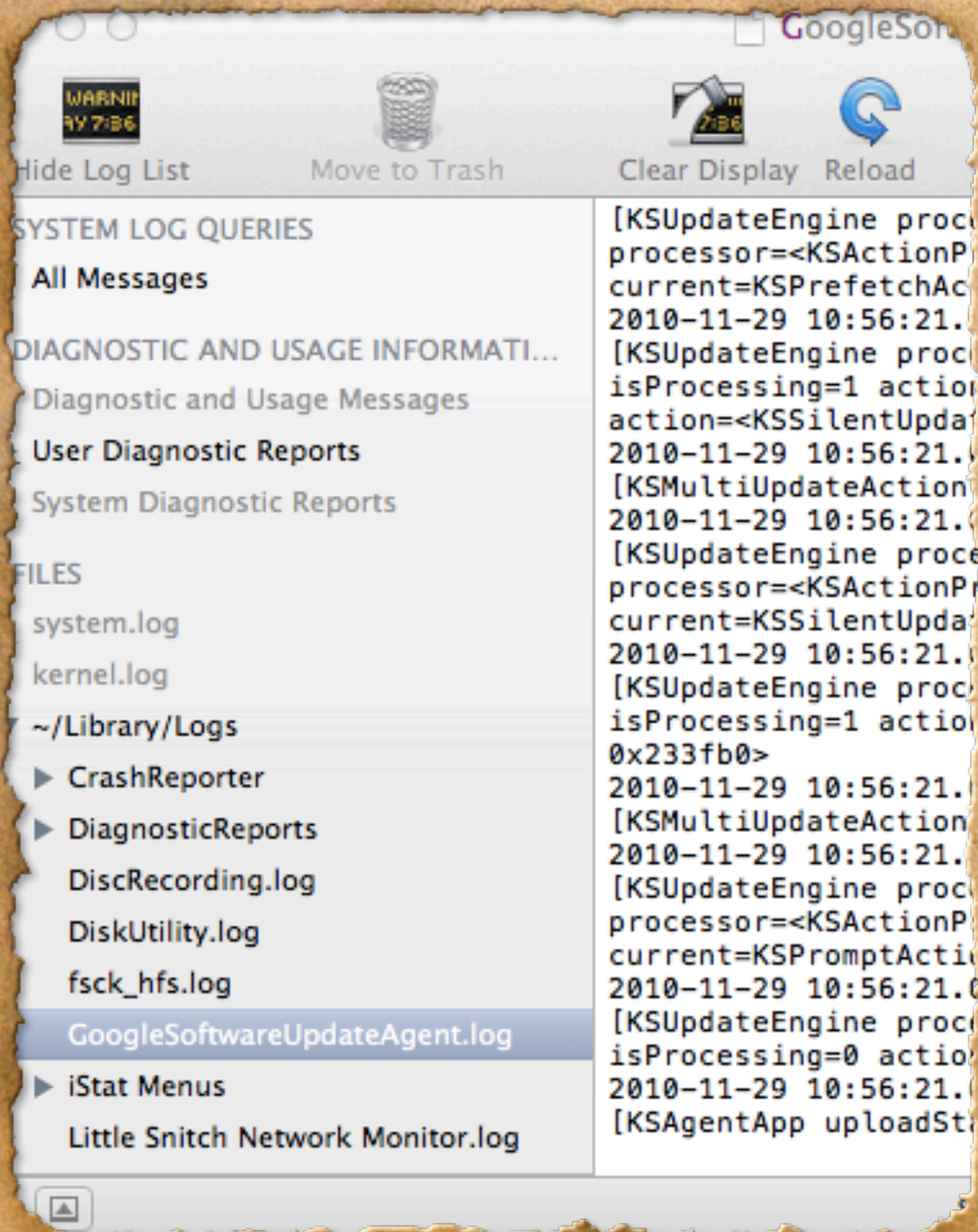
- ♦ Test it yourself
- ♦ Can you reproduce the same issue?
- ♦ Does it work for all users?
- ♦ Do you have a known good system?

Best Practices Walkthrough



- ♦ Try the Quick fixes
 - ♦ Fix Permissions
 - ♦ Run DiskUtility
 - ♦ Applejack
 - ♦ Install Combo Updater
 - ♦ Check for updates

Best Practices Walkthrough



- ♦ Is this a known issue?
- ♦ Check the logs
 - ♦ What app is causing the issue?
- ♦ Any error messages?

Best Practices Walkthrough



- ♦ Research it online
- ♦ Call Tech Support
- ♦ Check the Tech lists
- ♦ Ask other ACNs
- ♦ Get back to client at a specified time
 - ♦ Allow your brain to process all the info
 - ♦ Give yourself research time

Tools of the trade

Tools of the trade

- ◆ Bootable ThumbDrive(s) or HardDrive(s)
 - ◆ Known good Mac OS
 - ◆ Mac OS Installers 10.4 through 10.7
 - ◆ Favorite Utilities
 - ◆ Apple Combo Updaters
 - ◆ Common Application Upgrades and Installers
- ◆ Known good cables
- ◆ Known good wired keyboard and mouse
- ◆ Your MacBook or iPad

Apple Utilities

- ◆ General Apps (/Applications/Utilities/)
 - ◆ Console: Displays your log files
 - ◆ Activity Monitor
 - ◆ System Profiler
 - ◆ Network Utility
 - ◆ Disk Utility
 - ◆ Terminal
- ◆ Server Tools (/Applications/Server)
 - ◆ Server or Server Admin
 - ◆ Workgroup Manager...



Essential Applications

- ♦ fseventer
- ♦ AppleJack
- ♦ Bonjour Browser
- ♦ TextWrangler
- ♦ CarbonCopyCloner
- ♦ AP Grapher
- ♦ Lingon
- ♦ Pacifist
- ♦ Transmit
- ♦ Data Rescue Pro
- ♦ Print Therapy
- ♦ PlistEdit Pro
- ♦ SQLite Database Browser

The Real World...
Most fixes are quick



Q&A



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